

920537 - 905630

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

IN RE THE APPLICATION OF:

Clive Jones

Serial No.: 09/913,785

Filed: January 4, 2001

For: Data Encoding/Decoding Device and  
Apparatus Using the Same

) Examiner: Brandon S. Hoffman

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) Group Art Unit: 2136

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) Customer No. 23644

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Alexandria, VA 22313-1450, on July 12, 2006  
Signature Debbie Healy  
Debbie Healy

**RESPONSE TO OFFICE ACTION DATED MARCH 3, 2006**

Honorable Director of Patents and Trademarks  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

In response to the Office Action of March 3, 2006, the Applicants have the following remarks in relation to the matters raised by the Examiner. No claim amendments are being made because none are believed to be warranted as explained below.

First, claims 8 and 22 stand rejected under 35 USC §112, second paragraph, as being rendered indefinite by use of the term "substantially". It is submitted that use of the word "substantially" is necessary because white noise complies a truly random signal. This signal contains decodeable data and therefore in the final analysis cannot, by definition, be truly white. In this regard, please note that part of the purpose of the invention is to make a non-white signal approximately white. Thus, although "substantially" might in some cases reduce clarity, in the present case it covers exactly the required meaning

Further to the above, the applicants direct the Examiner's attention to granted US patent number US 5,721,694 within which the term "substantially" is used throughout a number of its claims. In particular, claims 16, 18, 24 and 25 of US 5,721,694 refers to "substantially white noise". This is just a single example of the term "substantially" being used in a granted US patent, of which many have been found after conducting a brief search (for example, US 6728401, US 6448592 and US 4348931, to name but a few).

It is therefore submitted that claims 8 and 22 are not rendered unclear by inclusion of the word "substantially".

Claims 8 – 10, 21 and 22 also stand rejected under 35 U.S.C. §103 as being unpatentable over Baker (US 5946355) in view of Bright et al (US 4893339).

Regarding claim 8, the Examiner contends that Baker discloses an encoding unit which combines each bit input on the serial data input with a plurality of additional encoding bits forming an encryption key to derive an encoded output bit.

In fact, the encoding unit of Baker combines each bit input on the serial data input with a single additional bit, not a plurality of additional encoding bits as specifically recited by claim 8. By combining each bit of the serial input data with a single bit derived from a LFSR, the encoding unit of Baker, Pseudo, randomises the signal. Thus, Baker describes a "keyless" scrambling system wherein the output only depends on the input.

The Examiner acknowledges that Baker does not teach the features of the random generator and the transformation unit as recited in pending claim 8. However, for the above mentioned reasons, it is further asserted that Baker does not disclose the feature of "an encoding unit which combines each bit on the serial data input with a plurality of additional bits forming an encryption key".

The Examiner is also of the opinion that Wright et al teaches the additional features not present in Baker.

Bright et al describes an encryption system using a random number. However, in Bright et al, only the random number is used to produce the encryption key. Thus, the incoming data is not used to generate the encryption key in the system of Bright. In other words, the updated keys do not depend on the input data.

It is therefore submitted that combination of Baker and Bright et al does not produce a data encoding device as recited in pending claim 8. More specifically, they do not disclose or suggest forming an encryption key comprising a plurality of bits which is derived from previous values of the encryption key and the input bit.

With regard to claim 21, the above detailed reasoning is asserted in respect of the decoding apparatus disclosed by Baker and Bright et al. More specifically, it is again noted that Baker does not teach the features of a transformation unit and a decoding unit as recited in pending claim 21. Also, no combination of Baker and Bright et al will produce a data decoding device in which the serial data input is decoded with a key comprising a plurality of bits which is derived from previous values of the key and of the input bit.

In accordance with the above, it is respectfully submitted that pending claim 22 is not taught by any combination of the cited prior art documents, since claim 21 is directed to a data communications system comprising an encoding device of claim 8 and a decoding device of claim 21.

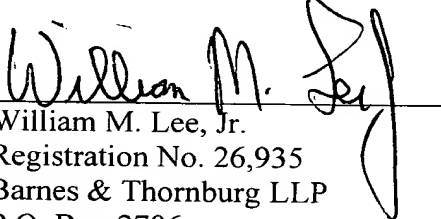
For the avoidance of any doubt, the reasoning and arguments that were previously submitted to support the appeal filed for this application are hereby maintained. Thus, to avoid unnecessary repetition, applicants direct the Examiner to the summary of the subject-matter and its advantages which was provided in the previous submission.

As this response is being filed during the fifth month following the Examiner's Office Action, an appropriate Petition for Extension of Time is also submitted herewith.

Further and favorable reconsideration by the Examiner is urged.

July 12, 2006

Respectfully submitted,

  
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